



1637

PTO/SB/17 (05-03)

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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision

 Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT** (\$ 180.00)
*Complete if Known*

Application Number	09/674,090
Filing Date	March 1, 2002
First Named Inventor	Yoav Eichen
Examiner Name	J. Siew
Art Unit	1637

Attorney Docket No. I8363.0002/P002

**METHOD OF PAYMENT (check all that apply)**
 Check  Credit Card  Money Order  Other  None  
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**FEE CALCULATION (continued)****3. ADDITIONAL FEES**

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)
1051	130	2051	65
1052	50	2052	25
1053	130	1053	130
1812	2,520	1812	2,520
1804	920*	1804	920*
1805	1,840*	1805	1,840*
1251	110	2251	55
1252	410	2252	205
1253	930	2253	465
1254	1,450	2254	725
1255	1,970	2255	985
1401	320	2401	160
1402	320	2402	160
1403	280	2403	140
1451	1,510	1451	1,510
1452	110	2452	55
1453	1,300	2453	650
1501	1,300	2501	650
1502	470	2502	235
1503	630	2503	315
1460	130	1460	130
1807	50	1807	50
1806	180	1806	180
8021	40	8021	40
1809	750	2809	375
1810	750	2810	375
1801	750	2801	375
1802	900	1802	900
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SUBMITTED BY		Complete (if applicable)		
Name (Print/Type)	Stephen A. Soffen	Registration No. (Attorney/Agent)	31,063	Telephone (202) 785-9700
Signature		Date	June 3, 2003	



Docket No.: I8363.0002/P002  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Yoav Eichen

Application No.: 09/674,090

Filed: March 1, 2001

Group Art Unit: 1637

Examiner: J. Siew

For: DETECTION OF A TARGET IN A  
SAMPLE BY MEASURING  
CONDUCTANCE OF A SUBSTANCE  
GROWN FROM NUCLEATION  
CENTER-FORMING MOIETIES

**INFORMATION DISCLOSURE STATEMENT (IDS)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed more than three months after the U.S. filing date, OR more than three months after the date of entry of the national stage of a PCT application, AND after the mailing date of the first Office Action on the merits, whichever occurs first, but before the mailing date of a Final Rejection or Notice of Allowance.

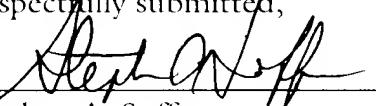
While the information and references disclosed in this Information Disclosure Statement may be "material" pursuant to 37 CFR 1.56, it is not intended to constitute an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

Please charge our Credit Card in the amount of \$180.00 covering the fee set forth in 37 CFR 1.17(p). Credit Card Payment Form SB-2038, with a signature from an authorized cardholder, is enclosed. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. I8363.0002/P002.

Dated: June 3, 2003

Respectfully submitted,

By   
Stephen A. Soffen

Registration No.: 31,063  
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PTO/SB/08A (10-01)

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Substitute for form 1449A/PTO				<i>Complete if Known</i>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				<i>JUN 9 2001</i>	<i>TECH CENTER 1600</i>
(use as many sheets as necessary)				Application Number	09/674,090
				Filing Date	March 1, 2001
				First Named Inventor	Yoav Eichen
				Art Unit	1637
				Examiner Name	J. Siew
Sheet	1	of	4	Attorney Docket Number	
I8363.0002/P002-A					

**U.S. PATENT DOCUMENTS**

## FOREIGN PATENT DOCUMENTS

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

#### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		B.L. Altshuler et al., "Mesoscopic Phenomena in Solids", Elsevier Science Publishers, B.V., 1991, pp. 176-271	
		M.A. Kastner, "The Single Electron Transistor", <i>Reviews of Modern Physics</i> , Vol. 64, No. 3, July 1992, pp. 849-858	
		D. Porath et al., "Single Electron Tunneling and Level Spectroscopy of Isolated C <sub>60</sub> Molecules", <i>J. Appl. Phys.</i> Vol. 81, No. 5, March 1997, pp. 2241-2244	
		U. Meirav and E.B. Foxman, "Single Electron Phenomena in Semiconductors", <i>Semiconductor Science Technology</i> 11, 1996, pp. 255-284	
		I. Bertini et al. "Bioinorganic Chemistry", University Science Books, 1994, pp. 455-503	
		L.P. Kouwenhoven et al., "Introduction to Mesoscopic Electron Transport", Kluwer Academic Publishers, 1997, pp. 1-44	
		L. Langer et al., "Quantum Transport in a Multiwalled Carbon Nanotube", <i>Physical Review Letters</i> , Vol. 76, No. 3, January 15, 1996, pp. 479-482	

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Sheet	2	of	4	Attorney Docket Number	I8363.0002/P002-A

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FOREIGN PATENT DOCUMENTS					
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					T <sup>6</sup>

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		D. Bensimon et al., "Stretching DNA With A Receding Meniscus: Experiments And Models", <i>Physical Review Letters</i> , Vol. 74, No. 23, June 5, 1995, pp. 4754-4757
		A. Bensimon et al., "Alignment and Sensitive Detection of DNA By A Moving Interface", <i>Science</i> , Vol. 265, Sept. 30, 1994, pp. 2096-2098
		D. Wirtz, "Direct Measurement of the Transport Properties of a Single DNA Molecule", <i>Physical Review Letters</i> , Vol. 75, No. 12, September 18, 1995, pp. 2436-2439
		R. M. Zimmerman et al., "DNA Stretching on Functionalized Gold Surfaces", <i>Nucleic Acids Research</i> , Vol. 22, No. 3, 1994, pp. 492-497
		C.A. Mirkin et al., "A DNA-based Method for Rationally Assembling Nanoparticles Into Macroscopic Materials", <i>Nature</i> , Vol. 382, August 15, 1996, pp. 607-609
		A.P. Alivisatos et al., "Organization of 'Nanocrystal Molecules' Using DNA", <i>Nature</i> , Vol. 382, August 15, 1996, pp. 609-611
		J. L. Coffer et al., "Dictation of the Shape of Mesoscale Semiconductor Nanoparticle Assemblies by Plasmid DNA", <i>Appl. Phys. Letter</i> , December 16, 1996, pp. 3851-3853
		Daniel B. Hall et al., "Oxidative DNA Damage Through Long-Range Electron Transfer", <i>Nature</i> , Vol. 382, August 22, 1996, pp. 731-735
		L.G. Marzilli et al., "An Extension of the Role of O(2) of Cytosine Residues in the Binding of the Metal Ions, Synthesis and Structure of an Unusual a Polymeric Silver (I) Complex of 1-Methylcytosine", <i>Journal of the American Chemical Society</i> , 99:8, April 13, 1977 (2 pages)

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Sheet	3	of	4	Filing Date	March 1, 2001
				First Named Inventor	Yoav Eichen
				Art Unit	1637
				Examiner Name	J. Siew
				Attorney Docket Number	I8363.0002/P002-A

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		G. L. Eichhorn, Complexes of Nucleosides and Nucleotides", Inorganic Biochemistry", Elsevier Scientific Publishing Company, Vols. 1 and 2, 1973, pp. 1191-1243			
		W. J. Roberts et al., "A New Procedure for the Detection of Gold on Animal Tissue", Proceedings of the Section of Sciences, Vol. 38, N.V. Noord-Hollandsche Uitgeversmaatschappij, Amsterdam, 1935, pp. 540-544			
		Clive S. Holgate et al., "Immunogold – Silver Staining", Journal of Histochemistry and Cytochemistry, Vol. 31, No. 7, 1983, pp. 938-944			
		Gorm Danscher et al., "Light Microscopic Visualization of Colloidal Gold on Resin-Embedded Tissue", The Journal of Histochemistry and Cytochemistry, Vol. 31, No. 12, 1983, pp. 1394-1398			
		J. H. Burroughes et al., "Light-emitting Diodes Based on Conjugated Polymers", Nature, Vol. 347, October 11, 1990, pp. 539-541			
		J.E. Mueller et al., "Design and Synthesis of a Knot From Single-Stranded DNA", 1191 Journal of American Chemical Society, Vol. 113, No. 16, 1991, pp. 6306-6308			
		S.M. Du et al., "Synthesis of a DNA Knot Containing Both Positive and Negative Nodes", Journal of American Chemical Society, Vol. 114, No. 24, 1992, pp. 9652-9655			
		Nadrian C. Seeman, et al., "Synthetic DNA Knots and Catenanes", New Journal of Chemistry, Vol. 17, No. 10, pp. 739-755			
		N.R. Kallenbach et al., "An Immobile Nucleic Acid Junction Constructed From Oligonucleotides", Nature, Vol. 305, No. 27, October 1983, pp. 829-831			
		A. Goffeau, "Molecular Fish on Chips", Nature, Vol. 385, January 1997, pp. 202-203			

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		G. B. Birrell et al., "Silver Enhanced Colloidal Gold as a Cell Surface Marker for Photoelectron Microscopy", <i>The Journal of Histochemistry and Cytochemistry</i> , Vol. 34, No. 3, 1986, pp. 339-345
		G. Danscher, "Localization of Gold in Biological Tissue", <i>Histochemistry</i> , (1981), 71:81-88
		L. Scopsi et al, "Increased Sensitivity in Immunocytochemistry – Effects of Double Application of Antibodies and of Silver Intensification on Immunogold and Peroxidase-Antiperoxidase Staining Techniques", <i>Histochemistry</i> (1985) 82:321-329
		L. Scopsi et al, "Colloidal Gold Probes in Immunocytochemistry", <i>Medical Biology</i> , 64: 139-145, 1986
		D. R. Springall et al, "The Potential of the Immunogold-Silver Staining Method for Paraffin Sections", <i>Histochemistry</i> (1984) 81:603-608
		J. Teasdale et al., "Identification of Oestrogen Receptors in Cells of Paraffin-Processed Breast Cancers by IGSS", <i>Histochemistry</i> (1987) 87:185-187, pp. 185-187

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